Electronic Version
Stylesheet Version v1.1.1

METHOD FOR TIE-UP DETECTION IN AN AUTOMATIC TRANSMISSION

Abstract

A method for detecting tie-up in an automatic transmission is provided. The rate of change of the output shaft acceleration is calculated by twice differentiating with respect to time the transmission output shaft speed. The calculated rate is then compared to a predetermined value, and each time the acceleration rate drops below the predetermined value, a controller stores the event in memory. If the acceleration rate drops below the predetermined value too frequently, a flag is set and indication of the transmission tie-up is prevented. When a predetermined amount of time passes, during which the acceleration rate does not drop below the predetermined value, the flag is cleared and indication of a tie-up is allowed. When the acceleration rate drops below the predetermined value, and the transmission is in a shift cycle and tie-up prevention flags are cleared, a transmission tie-up is indicated.